



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,635	07/15/2003	Klaus R. Moeller	23390-000120/US	5657

30593 7590 02/06/2008
HARNESSE, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

FAULK, DEVONA E

ART UNIT	PAPER NUMBER
----------	--------------

2615

MAIL DATE	DELIVERY MODE
-----------	---------------

02/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/618,635

Applicant(s)

MOELLER ET AL.

Examiner

Devona E. Faulk

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-36, 41-51, 57-61 and 64-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-34, 41-44, 48, 49, 57-61, 64-69 is/are rejected.
- 7) ☒ Claim(s) 35, 36, 45-47, 49-51 and 69 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.

Response to Remarks

2. The applicant has amended the claims to overcome a 112 1st and 112 2nd rejections set forth in the previous office action.
3. Claims 1-22,37-40, 52-56,62 and 63 are cancelled.

Claim Objections

4. Claims 35,36, 45-47,50 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 49,51 and 69 are objected to because of the following informalities: Claims 49,51 and 69 recite "wherein said zones include one or more of a sound masking zone, a paging zone, a timer zone, and a keypad zone". The specification teaches on page 22, paragraph 0070 or a masking zone and a tuner zone. The specification does not disclose a keypad zone as claimed. The examiner has interpreted the claim as including one or more of a sound masking zone, a paging zone and a timer zone. Appropriate correction is required.

Specification

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 49,51 and 69 recite "wherein said zones include one or more of a sound masking zone, a paging zone, a timer zone, and a keypad zone". The specification teaches on page 22, paragraph 0070 or a masking zone and a tuner zone. The specification does not disclose a keypad zone as claimed. The examiner has interpreted the claim as including one or more of a sound masking zone, a paging zone and a timer zone.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 recites "wherein the control unit is configured to generate the control signal to identify at least one of the sound masking units and to indicate from which of the output signal channels the identified sound masking unit is to obtain a signal for output". The specification in paragraph 0049 teaches that the control unit configures the network by assigning identities or addressed to each of the master hubs but this does not read on the claim language as recited. The examiner is not clear as to what reads on the sound masking units. Is it the speakers or the master hubs?

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 23-34,43,44,48,49,64-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al. (US 4185167) in view of Andersen et al. (US 5406634) in view of Horrall et al. (US 7,194,094) (hereafter the Cunningham combination).

Regarding claim 23, Cunningham discloses a networked sound masking system (Figs. 3 and 5), comprising:

a communication network (Figure 5; column 6, lines 26-37);

a plurality of sound masking units (M)(Fig. 5; column 6, lines 26-37), each sound masking unit connected to the communication network, each sound masking unit configured to selectively output a signal from at least one of a plurality of output signal channels carried over the communication network (Fig. 3; column 4, lines 1-18).

Cunningham does not expressly disclose each sound masking signal generator configured to generate and output a sound masking signal based on a control signal carried over a control signal channel of the communication network; and a control unit configured to selectively output at least one sound masking signal on the plurality of output signal channels of the communication network, and the control unit configured to

generate the control signal and the output the control signal on the control signal channel of a communication network.

Anderson discloses an intelligent speaker unit for speaker system network comprising a plurality of speaker units (i.e. sound masking units), wherein the plurality of speaker units are controlled by control data transmitted to the plurality of speaker units over a control channel (column 2, lines 43-54); and a control unit (Fig. 1; column 2, lines 55-64; column 3, lines 33-62) configured to generate the control signals to selectively control operation of the plurality of speaker units, and configured to send the control signals over the communication network (Fig. 1; column 2, lines 20-68; column 3, lines 33-62) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone (Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham with the teaching of Anderson to incorporate the functions of a intelligent speaker unit for use in a speaker network system (such as the speaker network system of Cunningham)(Cunningham, Fig. 5) in order to allow an operator to remotely control the plurality of speaker units (i.e. sound

masking units), which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore Cunningham as modified discloses each sound masking signal generator configured to generate and output a sound masking signal (Cunningham, Fig. 3; column 4, lines 1-18) based on a control signal received over the communication network (i.e. the sound masking package of Cunningham receives control data from the control unit of Anderson in order for each sound masking signal generator of Cunningham to be remotely controlled by the control unit of Anderson in order for each sound masking signal generator configured to generate and output a sound masking signal based on a control signal received over the communication network) (Cunningham, Fig. 5; Anderson, column 3, lines 56-62); and a control unit configured to generate the control signals to selectively control operation of the plurality of sound masking units, and configured to send the control signals over the communication network (Anderson, Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Cunningham as modified teaches of generating control signals to selectively control operation of a plurality of masking units and that a plurality of parameters such as speaker volume and speaker equalization can be adjusted. The examiner asserts that therefore some of the sound masking units would obviously be responsive to a masking signal volume command.

Cunningham as modified fails to explicitly teach of one of the control signals being a masking signal spectrum command.

Horrall teaches of a sound masking system that has a control unit or function that allows the user to select a selected sound masking spectrum stored in sound masking signal generator (column 6, lines 48-53). The sound masking spectrum signal serves to control the frequency (column 6, lines 54-58).

In view of the prior art, it would have been obvious to try to have the control signals be at least a sound masking volume signal and a masking signal spectrum command with a reasonable expectation of success.

Claim 24 is dependent on claim 23. Regarding claim 24, the Cunningham combination discloses wherein the control unit is configured to receive at least one paging signal, and output the paging signal on one of the plurality of output signal channels. Cunningham discloses that the sound masking system can provide paging signals (column 1, lines 65-69). Anderson teaches that the control unit, 10, can transmit and receive signals. All elements of claim 24 are comprehended by the Cunningham combination as applied above to claim 23.

Claim 25 is dependent upon claim 24. Regarding claim 25, the Cunningham combination teaches of selectively outputting signals, and of a sound masking signal (See Cunningham combination as applied above to claim 23) and a paging signal (Cunningham further discloses that the sound masking system can provide paging signals; column 1, lines 65-69). The examiner asserts that adding signals is well known in the art and that it is a matter of design choice as to what signals are added. It would have been obvious to add the sound masking signal and the paging signal to provide a combined output that would provide a masking signal and a paging signal.

Claim 26 is dependent upon claim 23. Regarding claim 26, the Cunningham combination discloses wherein the control unit is configured to receive a plurality of the sound masking signals, and output the plurality of sound masking signals on different ones of the plurality of output channels (See the Cunningham combination as applied above to claim 23).

Claim

Claim 28 is dependent upon claim 23. Regarding claim 28, the Cunningham combination discloses wherein the plurality of sound masking units are connected in a series in the communication network (Cunningham, Figure 5).

Claim 29 is dependent upon claim 28. Regarding claim 29, the Cunningham combination discloses each of the plurality of sound masking units includes a first interface and a second interface, the first interface interfacing with an upstream side of the communication network, and the second interfacing with a downstream side of the communication network, the upstream side being closer to the control unit and the downstream side being further from the control unit (Cunningham, Fig. 5; Anderson, Fig. 1).

Claim 30 is dependent upon claim 23. Regarding Claim 30, the Cunningham combination discloses the plurality of sound masking units populates the plurality of output signal channels such that the plurality of sound masking units are associated with a plurality of sound masking zones, each sound masking unit being associated with one of the plurality of sound masking zones, and the sound masking units providing sound masking for the associated sound masking zone independently of the other sound masking zones (i.e. Cunningham as modified comprising control data which enables the control of the desired sound masking package or packages in order

to perform the desired functions)(Cunningham, Fig. 5; Anderson, Fig. 1; column 4, lines 33-57).

Claim 31 is dependent upon claim 30. Regarding Claim 31, the Cunningham combination discloses wherein the control unit populates the plurality of output signal channels such that the sounds masking units associated with each sound masking zone provide sound masking tailored to suppress sound in the associated sound masking zone (Cunningham, Fig. 1, column 1, lines 35-68).

Claim 32 is dependent upon claim 30. Regarding Claim 32, the Cunningham combination does not expressly disclose a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones. However, the Examiner takes Official Notice that it is well known in the art to provide a number of the plurality of sound masking units in a number of the plurality of sound masking zones in order to provide the desired configuration needed for different areas which produces a comfortable listening environment for people. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham as modified to provide a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones in order to provide the desired configuration need for different areas which produces a comfortable listening environment for people, wherein the control unit of Cunningham as modified can selectively control the sound masking package or packages in a network, or in multiple networks or zones to perform the desired operations.

Claim 33 is dependent upon claim 23. Regarding claim 33, the Cunningham combination discloses the control unit includes an address generator for assigning addresses to the sound masking units (Anderson, column 7, lines 10-23).

Claim 34 is dependent upon claim 33. Regarding claim 34, the Cunningham combination discloses wherein the address generator comprises a component for generating a logical address for each of the sound masking units (i.e. it is implicit that Cunningham as modified discloses a component for generating a logical address for each of the sound masking units). Cunningham as modified does not expressly disclose the logical address being derived from an identifier associated with each of the sound masking units. However, the Examiner takes Official Notice that it is well known in the art to provide logical address being derived from an identifier associated with each of the sound masking units in order to derived an address for the sound masking unit which it unique to that sound masking unit which was provided by the manufacturer so that the control unit does not have to generate a random address for the sound masking unit, therefore providing a fixed address which makes process of generating an address simpler. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Cunningham as modified to provide logical address being derived from an identifier associated with each of the sound masking units in order to derived an address for the sound masking unit which it unique to that sound masking unit which was provided by the manufacturer so that the control unit does not have to generate a random address for the sound masking unit, therefore providing a fixed address which makes process of generating an address simpler.

Claim 43 is dependent upon claim 23. Regarding claim 43, the Cunningham combination discloses generating a plurality of sound masking signals and outputting the plurality of sound masking signals on different ones of the plurality of output signal channels(See the Cunningham combination as applied above to claim 23).

Regarding claim 44, Cunningham discloses a networked sound masking system (Figs. 3 and 5), comprising:

- a communication network (Figure 5; column 6, lines 26-37);

- a plurality of sound masking units (M)(Fig. 5; column 6, lines 26-37), some of said sound masking units including a communication interface for coupling said sound masking units to said communication network for receiving signals on said communication network (Fig. 3; column 4, lines 1-18).

Cunningham does not expressly discloses receiving signals on said communication network including a sound masking signal, a masking signal volume command and a masking signal spectrum command and some of the sound masking units including a processor for outputting said sound masking signal and said processor including a component responsive to said masking signal volume command for controlling the volume of said sound masking signal and a component responsive to said masking signal spectrum command for controlling the frequency of said sound masking signal and a control unit configured to output said sound masking signal on said communication network and said control unit being configured to output said masking signal volume command on said communication network and said control unit being configured to output said masking signal spectrum command on said

communication network. each sound masking signal generator configured to generate and output a

Anderson discloses an intelligent speaker unit for speaker system network comprising a plurality of speaker units (i.e. sound masking units), wherein the plurality of speaker units are controlled by control data transmitted to the plurality of speaker units over a control channel (column 2, lines 43-54); and a control unit (Fig. 1; column 2, lines 55-64; column 3, lines 33-62) configured to generate the control signals to selectively control operation of the plurality of speaker units, and configured to send the control signals over the communication network (Fig. 1; column 2, lines 20-68; column 3, lines 33-62) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone (Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham with the teaching of Anderson to incorporate the functions of a intelligent speaker unit for use in a speaker network system (such as the speaker network system of Cunningham)(Cunningham, Fig. 5) in order to allow an operator to remotely control the plurality of speaker units (i.e. sound

masking units), which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore Cunningham as modified discloses each sound masking signal generator configured to generate and output a sound masking signal (Cunningham, Fig. 3; column 4, lines 1-18) based on a control signal received over the communication network (i.e. the sound masking package of Cunningham receives control data from the control unit of Anderson in order for each sound masking signal generator of Cunningham to be remotely controlled by the control unit of Anderson in order for each sound masking signal generator configured to generate and output a sound masking signal based on a control signal received over the communication network) (Cunningham, Fig. 5; Anderson, column 3, lines 56-62); and a control unit configured to generate the control signals to selectively control operation of the plurality of sound masking units, and configured to send the control signals over the communication network (Anderson, Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Cunningham as modified teaches of generating control signals to selectively control operation of a plurality of masking units and that a plurality of parameters such as speaker volume and speaker equalization can be adjusted. The examiner asserts that therefore some of the sound masking units would obviously be responsive to a masking signal volume command.

Cunningham as modified fails to explicitly teach of one of the control signals being a masking signal spectrum command.

Horrall teaches of a sound masking system that has a control unit or function that allows the user to select a selected sound masking spectrum stored in sound masking signal generator (column 6, lines 48-53). The sound masking spectrum signal serves to control the frequency (column 6, lines 54-58).

In view of the prior art, it would have been obvious to try to have the control signals be at least a sound masking volume signal and a masking signal spectrum command with a reasonable expectation of success.

Claim 48 is dependent upon claim 44. Regarding Claim 48, the Cunningham combination does not expressly disclose a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones. However, the Examiner takes Official Notice that it is well known in the art to provide a number of the plurality of sound masking units in a number of the plurality of sound masking zones in order to provide the desired configuration needed for different areas which produces a comfortable listening environment for people. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham as modified to provide a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones in order to provide the desired configuration need for different areas which produces a comfortable listening environment for people, wherein the control unit of Cunningham as modified can selectively control the sound masking package or packages in a network, or in multiple networks or zones to perform the desired operations.

Claim 49 is dependent upon claim 48. Regarding claim 49, wherein said zones include one or more of a sound masking zone and a timer zone. All elements of claim 49 are comprehended by the rejection of claim 48.

Regarding claim 64, Cunningham discloses controlling a plurality of sound masking units, said plurality of sound masking units being configured in a control communication network (Figs. 3 and 5; a plurality of sound masking units (M)(Fig. 5; column 6, lines 26-37) and receiving the sound masking signal addressed to one of said sound masking units; and outputting the received sound masking signal at the addressed sound masking unit. Cunningham teaches that the masking units may be connected together for simultaneous operation. It is obvious that monitoring of the masking units would occur.

Cunningham fails to disclose a method for selectively controlling a plurality of sound masking units and receiving a plurality of control commands over said control communication network, said method comprising controlling characteristics of the sound masking signal based on the one or more commands received at the sound masking unit.

Anderson discloses an intelligent speaker unit for speaker system network comprising a plurality of speaker units (i.e. sound masking units), wherein the plurality of speaker units are controlled by control data transmitted to the plurality of speaker units over a control channel (column 2, lines 43-54); and a control unit (Fig. 1; column 2, lines 55-64; column 3, lines 33-62) configured to generate the control signals to

selectively control operation of the plurality of speaker units, and configured to send the control signals over the communication network (Fig. 1; column 2, lines 20-68; column 3, lines 33-62) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone (Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham with the teaching of Anderson to incorporate the functions of a intelligent speaker unit for use in a speaker network system (such as the speaker network system of Cunningham)(Cunningham, Fig. 5) in order to allow an operator to remotely control the plurality of speaker units (i.e. sound masking units), which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore Cunningham as modified discloses each sound masking signal generator configured to generate and output a sound masking signal (Cunningham, Fig. 3; column 4, lines 1-18) based on a control signal received

over the communication network (i.e. the sound masking package of Cunningham receives control data from the control unit of Anderson in order for each sound masking signal generator of Cunningham to be remotely controlled by the control unit of Anderson in order for each sound masking signal generator configured to generate and output a sound masking signal based on a control signal received over the communication network) (Cunningham, Fig. 5; Anderson, column 3, lines 56-62); and a control unit configured to generate the control signals to selectively control operation of the plurality of sound masking units, and configured to send the control signals over the communication network (Anderson, Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Horral teaches of a sound masking system that has a control unit or function that allows the user to select a selected sound masking spectrum stored in sound masking signal generator (column 6, lines 48-53). The sound masking spectrum signal serves to control the frequency (column 6, lines 54-58).

In view of the prior art, it would have been obvious to try to have the control signals be at least a sound masking volume signal and a masking signal spectrum command with a reasonable expectation of success.

Claim 65 is dependent upon claim 64. Regarding claim 65, the Cunningham combination discloses setting a volume level for the sound masking signal in response to a masking signal volume command (See Cunningham combination as applied to claim 64 above).

Claim 66 is dependent upon claim 64. Regarding Claim 64, the Cunningham combination discloses the plurality of sound masking units populates the plurality of output signal channels such that the plurality of sound masking units are associated

with a plurality of sound masking zones, each sound masking unit being associated with one of the plurality of sound masking zones, and the sound masking units providing sound masking for the associated sound masking zone independently of the other sound masking zones (i.e. Cunningham as modified comprising control data which enables the control of the desired sound masking package or packages in order to perform the desired functions)(Cunningham, Fig. 5; Anderson, Fig. 1; column 4, lines 33-57).

Regarding claim 67, Cunningham discloses a networked sound masking system (Figs. 3 and 5), comprising:

a communication network (Figure 5; column 6, lines 26-37);

a plurality of sound masking units (M)(Fig. 5; column 6, lines 26-37), each sound masking unit connected to the communication network, each sound masking unit configured to selectively output a signal from at least one of a plurality of output signal channels carried over the communication network (Fig. 3; column 4, lines 1-18).

Cunningham does not expressly disclose each sound masking signal generator configured to generate and output a sound masking signal based on a control signal carried over a control signal channel of the communication network; and a control unit configured to selectively output at least one sound masking signal on the plurality of output signal channels of the communication network, and the control unit configured to generate the control signal and the output the control signal on the control signal channel of a communication network.

Anderson discloses an intelligent speaker unit for speaker system network comprising a plurality of speaker units (i.e. sound masking units), wherein the plurality of speaker units are controlled by control data transmitted to the plurality of speaker units over a control channel (column 2, lines 43-54); and a control unit (Fig. 1; column 2, lines 55-64; column 3, lines 33-62) configured to generate the control signals to selectively control operation of the plurality of speaker units, and configured to send the control signals over the communication network (Fig. 1; column 2, lines 20-68; column 3, lines 33-62) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone (Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham with the teaching of Anderson to incorporate the functions of a intelligent speaker unit for use in a speaker network system (such as the speaker network system of Cunningham)(Cunningham, Fig. 5) in order to allow an operator to remotely control the plurality of speaker units (i.e. sound masking units), which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status

and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore Cunningham as modified discloses each sound masking signal generator configured to generate and output a sound masking signal (Cunningham, Fig. 3; column 4, lines 1-18) based on a control signal received over the communication network (i.e. the sound masking package of Cunningham receives control data from the control unit of Anderson in order for each sound masking signal generator of Cunningham to be remotely controlled by the control unit of Anderson in order for each sound masking signal generator configured to generate and output a sound masking signal based on a control signal received over the communication network) (Cunningham, Fig. 5; Anderson, column 3, lines 56-62); and a control unit configured to generate the control signals to selectively control operation of the plurality of sound masking units, and configured to send the control signals over the communication network (Anderson, Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Cunningham as modified teaches of generating control signals to selectively control operation of a plurality of masking units and that a plurality of parameters such as speaker volume and speaker equalization can be adjusted. The examiner asserts that therefore some of the sound masking units would obviously be responsive to a masking signal volume command.

Cunningham as modified fails to explicitly teach of one of the control signals being a masking signal spectrum command.

Horrall teaches of a sound masking system that has a control unit or function that allows the user to select a selected sound masking spectrum stored in sound masking signal generator (column 6, lines 48-53). The sound masking spectrum signal serves to control the frequency (column 6, lines 54-58).

In view of the prior art, it would have been obvious to try to have the control signals be at least a sound masking volume signal and a masking signal spectrum command with a reasonable expectation of success.

Claim 68 is dependent upon claim 67. Regarding Claim 67, the Cunningham combination does not expressly disclose a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones. However, the Examiner takes Official Notice that it is well known in the art to provide a number of the plurality of sound masking units in a number of the plurality of sound masking zones in order to provide the desired configuration needed for different areas which produces a comfortable listening environment for people. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham as modified to provide a number of the plurality of sound masking units is different from a number of the plurality of sound masking zones in order to provide the desired configuration need for different areas which produces a comfortable listening environment for people, wherein the control unit of Cunningham as modified can selectively control the sound masking package or packages in a network, or in multiple networks or zones to perform the desired operations.

Claim 69 is dependent upon claim 68. Regarding claim 69, wherein said zones include one or more of a sound masking zone and a timer zone. All elements of claim 49 are comprehended by the rejection of claim 48.

11. Claim 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Cunningham combination in view of Hendricks et al. (US 2003/0107478).

Claim 41 is dependent on claim 23. Regarding Claim 41, the Cunningham combination as modified Hendricks discloses further comprising: a remote control unit configured to send adjustment signals wirelessly to the control unit; and wherein the control unit is configured to receive the adjustment signals and generate the control signals based on the received adjustment signals (Anderson, Figs. 1-2 and 7; column 3, lines 33-48; column 5, lines 1-11; See Anderson as applied above to claim 23).

Claim 42 is dependent upon claim 41. Regarding Claim 42, the Cunningham combination as modified by Hendricks teaches of a remote unit which allows an operator at the sound masking unit to use an optional controls/display. Transceiver 47 is provided with return line 26, whereby the remote control 41 and the central computer 10 might exchange control information or status, which allows the remote console and the central computer to communicate remotely which provides ease of adjusting a plurality of parameters to obtain the desired output at a desired time (Anderson, column 5, lines 1-11). The Cunningham combination as modified by Hendricks does not disclose the remote control unit is configured to receive sound measurements and generate the adjustment signals based on the received sound measurements. However, the Examiner takes Official Notice that it is well known in

the art to provide the remote control unit which is configured to receive sound measurements and generate the adjustment signals based on the received sound measurements in order to make precise adjustments to the sound masking units based on the measurements received by the remote control. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham as modified to provide the remote control unit which is configured to receive sound measurements and generate the adjustment signals based on the received sound measurements in order to make precise adjustments to the sound masking units based on the measurements received by the remote control (Anderson, column 5, lines 1-11)

12. Claims 57,59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al. (US 4185167) in view of Andersen et al. (US 5406634).

Regarding claim 57 , Cunningham discloses a networked sound masking system (Figs. 3 and 5), comprising:

an interface for interfacing to a network (Figure 5; column 6, lines 26-37); and an output for outputting a sound masking signal (sound masking units (M))(Figure 5).

Cunningham further teaches that each sound masking unit connected to the communication network, each sound masking unit configured to selectively output a signal from at least one of a plurality of output signal channels carried over the communication network (Fig. 3; column 4, lines 1-18).

Cunningham does not expressly disclose a controller for receiving a sound masking signal and one or more control commands from the interface, said one or more control commands being intended for the networkable sound masking device and said one or more control commands comprising a masking signal volume command or a masking signal spectrum command and said sound masking signal being responsive to a masking signal volume command.

Anderson discloses an intelligent speaker unit for speaker system network comprising a plurality of speaker units (i.e. sound masking units), wherein the plurality of speaker units are controlled by control data transmitted to the plurality of speaker units over a control channel (column 2, lines 43-54); and a control unit (Fig. 1; column 2, lines 55-64; column 3, lines 33-62) configured to generate the control signals to selectively control operation of the plurality of speaker units, and configured to send the control signals over the communication network (Fig. 1; column 2, lines 20-68; column 3, lines 33-62) in order to allow an operator to remotely control the plurality of speaker units, which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone (Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cunningham with the teaching of Anderson to incorporate the functions of a intelligent speaker unit for use in a speaker network system (such as the speaker network system of Cunningham)(Cunningham, Fig. 5) in order to allow an operator to remotely control the plurality of speaker units (i.e. sound masking units), which provide ease of adjusting a plurality of parameters such as volume, speaker equalization, and sound delay at a desired time; to receive status and/or control information from the speaker unit; and to provide more flexibility in a speaker system network by allowing an operator to transmit a message to only selected speakers in a network, or in multiple networks or zones, rather than all speakers in a network or zone. Therefore Cunningham as modified discloses each sound masking signal generator configured to generate and output a sound masking signal (Cunningham, Fig. 3; column 4, lines 1-18) based on a control signal received over the communication network (i.e. the sound masking package of Cunningham receives control data from the control unit of Anderson in order for each sound masking signal generator of Cunningham to be remotely controlled by the control unit of Anderson in order for each sound masking signal generator configured to generate and output a sound masking signal based on a control signal received over the communication network) (Cunningham, Fig. 5; Anderson, column 3, lines 56-62); and a control unit configured to generate the control signals to selectively control operation of the plurality of sound masking units, and configured to send the control signals over the communication network (Anderson, Figs. 1 and 7; column 2, lines 20-68; column 3, lines 33-62).

Cunningham as modified teaches of generating control signals to selectively control operation of a plurality of masking units and that a plurality of parameters such as speaker volume and speaker equalization can be adjusted. The examiner asserts that therefore some of the sound masking units would obviously be responsive to a masking signal volume command.

Claim 59 is dependent upon claim 57. Cunningham as modified by Andersons discloses wherein said output comprises a volume control component and said controller including a component for controlling said volume control component in response to said masking signal volume command. (See Cunningham and Anderson as applied to claim 57 above).

13. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Cunningham et al. (US 4185167) in view of Andersen et al. (US 5406634) in further view of Ritter (US 4,686,693).

Claim 58 is dependent on claim 57. Regarding claim 58, Cunningham as modified discloses a networkable sound system as claimed in claim 57 including a plurality of control signals. Cunningham as modified fails to disclose wherein said communication interface comprises an address component for recognizing signals intended for the sound masking unit associated with said address component (column 8, lines 32-46). Ritter discloses a sound masking apparatus wherein said communication interface comprises an address component for recognizing signals intended for the sound masking unit associated with said address component (column 8, lines 32-46). The examiner asserts that the types of signals recognized is a matter of

design choice. It would have been obvious to modify Cunningham as modified to include an address component as taught by Ritter in order to detect and amplify signals at individual units.

14. Claims 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al. (US 4185167) in view of Andersen et al. (US 5406634) in view of Horrall et al. (US 7,194,094)(hereafter the Cunningham combination).

Claim 60 is dependent upon claim 57. Cunningham as modified by Anderson discloses an output. Cunningham as modified by Anderson fails to disclose that the output comprises a frequency control component and said controller including a component for controlling said frequency control component in response to said masking signal spectrum command. Horrall teaches of a sound masking system that has a control unit or function that allows the user to select a selected sound masking spectrum stored in sound masking signal generator (column 6, lines 48-53). The sound masking spectrum signal serves to control the frequency (column 6, lines 54-58).

In view of the prior art, it would have been obvious to try to have the control signals be at least a sound masking volume signal and a masking signal spectrum command with a reasonable expectation of success.

Claim 61 is dependent upon claim 60. Regarding claim 61, the Cunningham combination discloses wherein said output comprises a volume control component and said controller including a component for controlling said volume control

component in response to said masking signal volume command. (See Cunningham and Anderson as applied to claim 57 above).

Conclusion

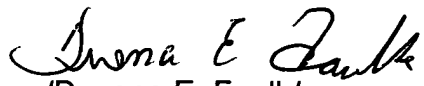
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number:
10/618,635
Art Unit: 2615

Page 29

A handwritten signature in cursive script, appearing to read "Devona E. Faulk".

/Devona E. Faulk/
Examiner
Art Unit 2615
2/1/2008